



# STIC Search Results Feedback Form

**EIC17000**

Questions about the scope or the results of the search? Contact *the EIC searcher or contact:*

Kathleen Fuller, EIC 1700 Team Leader  
571/272-2505 REMSEN 4B28

## Voluntary Results Feedback Form

- I am an examiner in Workgroup:  Example: 1713  
➤ Relevant prior art **found**, search results used as follows:

- ☐ 102 rejection
- ☐ 103 rejection
- ☐ Cited as being of interest.
- ☐ Helped examiner better understand the invention.
- ☐ Helped examiner better understand the state of the art in their technology.

Types of relevant prior art found:

- ☐ Foreign Patent(s)
- ☐ Non-Patent Literature  
(journal articles, conference proceedings, new product announcements etc.)

➤ Relevant prior art **not found**:

- ☐ Results verified the lack of relevant prior art (helped determine patentability).
- ☐ Results were not useful in determining patentability or understanding the invention.

Comments:

Drop off or send completed forms to EIC1700 REMSEN 4B28





# STIC Search Report

## EIC 1700

STIC Database Tracking Number: 112208

**TO: Jill M Gray**  
**Location: REM 5C79**  
**Art Unit : 1774**  
**January 16, 2004**

**Case Serial Number: 09/77959**

**From: Michael Newell**  
**Location: EIC 1700**  
**REMSSEN 4A30**  
**Phone: 571/272-2538**  
**MNewell@uspto.gov**

### Search Notes

STN search results (database HCAPLUS) presented first, Dialog results follow. By an oversight I did not limit the Dialog answer sets by publication date, so I apologize for the presence of any answers that may be too recent to qualify as prior art.

=> d his

(FILE 'HOME' ENTERED AT 14:41:35 ON 16 JAN 2004)

FILE 'HCAPLUS' ENTERED AT 14:42:02 ON 16 JAN 2004

L1 1116292 S SUPERABSORP? OR SUPERABSORB? OR ABSORP? OR ABSORB?  
 L2 2229361 S POLYMER? OR HOMOPOLYMER? OR COPOLYMER? OR TERPOLYMER? O  
 L3 964036 S LUBRIC? OR LUBE? OR GREAS? OR OIL? OR ANTICORRO? OR ANT  
 L4 2213820 S PETROL? OR SILICON? OR SILOX? OR ESTER? OR GLYCOL?  
 L5 137925 S (WATER OR MOISTURE) (3A) (RESIST? OR FREE OR IMPERV? OR I  
 L6 33164 S WATERTIGHT OR WATERRESIST? OR WATERPROOF? OR WATERFREE  
 L7 159532 S L5 OR L6  
 L8 400412 S ACRYL?  
 L9 184336 S CABLE? OR WIRE? OR WIRING  
 L10 22169 S L1 (3A) L2  
 L11 1945 S L10 AND L3  
 L12 152 S L11 AND L7  
 L13 15 S L12 AND L9  
 L14 56 S L12 AND L8  
 L15 49 S L14 NOT L13  
 L16 7 S L12 AND L9 AND L8  
 L17 8 S L13 NOT L16  
 L18 35 S L14 AND PY<1996  
 L19 8 S L13 AND PY<1996  
 L20 30 S L18 NOT L19

=> d cbib ab 119 1-8

L19 ANSWER 1 OF 8 HCAPLUS COPYRIGHT 2004 ACS on STN  
 1995:605556 Document No. 122:316377 Manufacture of surface-crosslinked  
 water-**absorbing** olefin **polymer** moldings.  
 Suetsugu, Masakatsu; Kuno, Takao (Tonen Kagaku Kk, Japan). Jpn.  
 Kokai Tokkyo Koho JP 07033891 A2 **19950203** Heisei, 8 pp.  
 (Japanese). CODEN: JKXXAF. APPLICATION: JP 1993-201308 19930722.  
 AB The title moldings, useful for **water-resistant**  
 sealing, communication **cables**, **cable** connector  
 sealing, etc. (no data), are manufd. by blending (a) 15-55:45-85  
 ethylene polymer (e.g., EVA)-EPDM mixt. 100, (b) hydrogenated diene  
 copolymer (e.g., Dynaron 1320P) 10-100, (c) water-**absorbing**  
**resin** (e.g., Aqualic CS-6S) 5-95, (d) inorg. filler (e.g.,  
 Micron White 5000A) 1-25, (e) softener (e.g., PW-380) 2-50, (f)  
 plasticizer (e.g., diisodecyl phthalate) 2-50; and optionally (g)  
 .alpha.,.beta.-unsatd. carboxylic acid metal salt, bismaleimide  
 deriv., and/or polyfunctional vinyl monomer (e.g., Zn diacrylate,  
 N,N'-m-phenylenebismaleimide, divinylbenzene) 0.01-25 parts, forming  
 films, and exposing .gtoreq.1 surface to radiation (e.g., electron  
 beam).

L19 ANSWER 2 OF 8 HCAPLUS COPYRIGHT 2004 ACS on STN

1995:580574 Document No. 122:316085 Water **absorption**

**polymer**-containing ethylene or vinyl chloride copolymer composition for **water-resistant** electric

**wire** and **cable** insulators.. Kawai, Tamio; Ootani, Hirobumi (Yazaki Corp, Japan). Jpn. Kokai Tokkyo Koho JP 06325626 A2 19941125 Heisei, 7 pp. (Japanese). CODEN: JKXXAF. APPLICATION: JP 1993-115077 19930518.

AB The compns. comprise plasticizers, stabilizers, fillers, **antirusting** agents, thermoplastics selected from ethylene-vinyl chloride copolymer, acrylate-ethylene copolymer and vinyl acetate-vinyl chloride **copolymer** and water-**absorptive polymers** selected from polyacrylic acid starch copolymer (e.g., Sanwet IM 1000), maleated ethylene polymer (e.g., Youmex 1001) and/or maleated propylene polymer (e.g., Youmex 2000).

L19 ANSWER 3 OF 8 HCAPLUS COPYRIGHT 2004 ACS on STN

1994:459045 Document No. 121:59045 Properties of water absorbent gels formulated for use as filling compounds for copper

telecommunications **cable** and as splice case encapsulants.

Levy, Alvin C.; Welch, Steven C.; Croft, Peter V. (Alvin C. Levy Assoc., Inc., Norcross, GA, USA). Proceedings of International Wire and Cable Symposium, 40th, 242-50 (English) 1991. CODEN: PIWSDG. ISSN: 0091-7702.

AB A wide range of test data relevant to the performance of superabsorbent thixotropic gels as Cu **cable** filling compds. and splice case encapsulants were presented. These materials incorporate **superabsorbents** (crosslinked polyacrylate **copolymers**) into more conventional products (a petroleum-based **oil** and thixotrope) to give compds. capable of providing superior **waterproof** performance. In addn., these new materials possess the unique ability to heal shorts which can occur if small flaws are present in the conductor insulation. The formulation technol. and the mechanisms by which these materials function are explained. The properties investigated include the ability to withstand various water heads, short elimination as a function of flaw size, dielec. const. stability in the presence of moisture, the capacitance stability of twisted pairs immersed in the filling compd. at 60.degree., the oxidative induction time of conductor insulation in aged **cables**, and other properties important to **cable** and splice performance.

L19 ANSWER 4 OF 8 HCAPLUS COPYRIGHT 2004 ACS on STN

1991:209366 Document No. 114:209366 Sealing compositions for optical or electric **cables**. Kobayashi, Hiroya; Sugiura, Yuji; Shimomura, Tadao (Japan). Jpn. Kokai Tokkyo Koho JP 02215011 A2

19900828 Heisei, 6 pp. (Japanese). CODEN: JKXXAF.  
APPLICATION: JP 1989-33676 19890215.

- AB The title compns., giving good **water resistance**, comprise 100 parts hydrophobic material, 0.1-50 parts water-**absorbent resins**, and .gtoreq.0.1 part  $R_2X(ZX)_nR_3$  ( $X = O$ , imino;  $Z = C_2-4$  alkylene;  $R_2 = H$ , org. group;  $n = 1-10,000$ ). Thus, a Na 2-sulfoethyl methacrylate-methacrylic acid-Na methacrylate-N,N'-methylenebisacrylamide copolymer was mixed (3 parts) with a naphthenic **oil** 70, polyethylene wax 30, polypropylene glycol (I) 10, and a stabilizer 1 part at 90.degree. to give a sealing compn. with swelling in H<sub>2</sub>O after 30 s and 15 min 0.04 mm and 0.31 mm, resp.; vs. 0 and 0.02, resp., without I.

L19 ANSWER 5 OF 8 HCAPLUS COPYRIGHT 2004 ACS on STN  
1991:124701 Document No. 114:124701 Filler compositions for electric and optical **cables**. Lefebvre, Dominique; Francois, Serge; Sezille, Claudy; Poidevin, Christian (Compagnie de Raffinage et de Distribution Total France, Fr.; Filergie). Fr. Demande FR 2644004 A1 **19900907**, 11 pp. (French). CODEN: FRXXBL.  
APPLICATION: FR 1989-2900 19890306.

- AB The title compns., with good **water resistance** and elec. insulation and low permittivity, contain naphthenic **oils** 60-80, plastic microballoons 3-10, .alpha.-olefin **polymers** 15-25, and **absorbents** 0.2-2%. Thus, a filler contg. naphthenic **oil** (b.p. 265-515.degree., viscosity 19 mm<sup>2</sup>/s at 40.degree.) 75.5, 1-butene-C<sub>2</sub>H<sub>4</sub>-C<sub>3</sub>H<sub>6</sub> copolymer 18.8, acrylonitrile-vinylidene chloride copolymer microballoons (bulk d. 0.035, diam. 10-100 nm) 5.0, SiO<sub>2</sub> absorbent 0.5, and **antioxidant** 0.2% had bulk d. 0.415, penetration (NFT 60119, 1/10 mm) 280 and 160 at +25.degree. and -40.degree., resp., and dielec. const. (500 V, 1 kHz, 20.degree.) 1.53. A telecommunication **cable** filled with this compn. had elec. resistance 24,000 M.OMEGA.; vs. 8000 with mineral **oil** in place of the naphthenic **oil**.

L19 ANSWER 6 OF 8 HCAPLUS COPYRIGHT 2004 ACS on STN  
1990:479896 Document No. 113:79896 Urethane polymer compositions with good **waterproofing** and hydrogen absorption properties. Ota, Takayuki; Kasai, Atsushi (Mitsubishi Kasei Corp., Japan). Jpn. Kokai Tokkyo Koho JP 02075657 A2 **19900315** Heisei, 8 pp. (Japanese). CODEN: JKXXAF. APPLICATION: JP 1988-227827 19880912.

- AB The title compns. useful as fillers for optical fiber **cables**, etc., comprise double bond-contg. hydrocarbon **oils**, hydrogenation catalysts, and reaction products of (a) polyols (av. OH no. .gtoreq.2) prepd. from .gtoreq.3 functional polyols and polyhydroxy hydrocarbon polymers or OH-terminated prepolymers (prepd. from polyhydroxy hydrocarbon polymers and polyisocyanates) and (b) isocyanate-terminated prepolymers prepd. from polyhydroxy

hydrocarbon polymers and polyisocyanates. Thus, a polyol (av. OH no. 2.95) prep'd. from Polytail HA (I), P 200 (paraffin oil), toluene diisocyanate (II), Adeka Quadrol, YS Resin PX 100, and Ru-C catalyst (III) was blended with a prepolymer prep'd. from I, P 200, and II, deaerated, cast in a mold, and heated to give a crosslinked sheet showing good H absorption, vs. poor, for a control prep'd. without III.

L19 ANSWER 7 OF 8 HCAPLUS COPYRIGHT 2004 ACS on STN  
 1989:156285 Document No. 110:156285 Gel composition for **water-resistant** and **water**-absorbent insulators for **wires** or **cables**. Freeman, Clarence S. (USA). PCT Int. Appl. WO 8808440 A1 **19881103**, 21 pp. DESIGNATED STATES: W: AU, BR, DK, FI, JP, KR, NO; RW: AT, BE, CH, DE, FR, GB, IT, LU, NL, SE. (English). CODEN: PIXXD2. APPLICATION: WO 1988-US1406 19880425. PRIORITY: US 1987-45889 19870501; US 1988-181833 19880415.

AB Communication **cables** and elec. **wires** are protected from water invasion by a filling of a coating material prep'd. from a gel of a water **absorbent** hydrocarbon **polymer** with pendant anionic groups and a hydrophilic substance in the matrix, and optionally a tackifier and dye. Mixing 12 parts fluid contg. polyisobutylene 20, SHF-61 (1-decene oligomer) 4.5, and 25:75 ethylene oxide-propylene oxide copolymer (OH no. 5-10 mg KOH/g) 1 part with 1 part silica (thickener) gave a gel matrix (dielec. const. <3), which was blended with poly(Na acrylate) in 2:1 ratio and 0.125-1% (based on gel matrix) polyisobutylene to give a **wire** insulation which absorbs invasive water in 60 s.

L19 ANSWER 8 OF 8 HCAPLUS COPYRIGHT 2004 ACS on STN  
 1938:61404 Document No. 32:61404 Original Reference No. 32:8626f-h Organic phosphates. (Celluloid Corp.). GB 486760 **19380603** (Unavailable). APPLICATION: GB .

AB Phosphates of cyclic OH compds. are prep'd. by treating the OH compds., e. g., PhOH, cresols, xylenols, resorcinol, .alpha.- and .beta.-naphthols, cyclohexanol, methylcyclohexanol, crude mixts. such as cresylic acid, with PCl<sub>5</sub> and H<sub>2</sub>O in a single operation. The H<sub>2</sub>O, addnl. to any that may be present in the starting material, is preferably added as vapor in admixt. with an inert gas, e. g., air, CO<sub>2</sub>. An example is given of the prepn. of tritolyl phosphate. The products may be purified by treatment with an aq. soln. of an alkali metal sulfide, which may also contain alkali; the supernatant aq. layer is decanted off and the phosphate remaining is filtered. In addn., the products may be treated, preferably after the sulfide treatment, with nascent H, e. g., prep'd. from Zn and mineral acid or generated by electrolysis. The products are useful as plasticizers, particularly for cellulose derivs., as solvents of cellulose esters and **resins**, as **absorbents** in solvent recovery

and air conditioning, as vehicles for grinding pigments, as fire- and H<sub>2</sub>O-proofing agents, as transformer **oil**, as **lubricants**, particularly in O-compressors, as joint compds. for elec. **cables** and as softeners for rubber, chlorinated rubber and resins.

=> s cbib ab 120 1-30

MISSING OPERATOR AB L20

The search profile that was entered contains terms or nested terms that are not separated by a logical operator.

=> d cbib ab 120 1-30

L20 ANSWER 1 OF 30 HCAPLUS COPYRIGHT 2004 ACS on STN  
1995:630384 Document No. 123:17512 Sunscreens containing **acrylic** acid-alkyl methacrylate copolymers. Tanda, Kazutoshi (Noevir Kk, Japan). Jpn. Kokai Tokkyo Koho JP 07089834 A2 **19950404** Heisei, 6 pp. (Japanese). CODEN: JKXXAF. APPLICATION: JP 1993-259041 19930921.

AB Sunscreens contain (A) (CH<sub>2</sub>CHCO<sub>2</sub>H)<sub>m</sub>(CH<sub>2</sub>CMeCO<sub>2</sub>R)<sub>n</sub> (R = C<sub>10</sub>-30 alkyl), (B) **oily** substances, (C) UV absorbers and/or Ti oxide, and (D) H<sub>2</sub>O being mixed, emulsified, and neutralized, and then mixed with (E) **water-resistant** film-forming agents. The sunscreens are safe and show good emulsion stability and **water-resistance**. A sunscreen contained **acrylic** acid-alkyl methacrylate copolymer 0.5, Me Ph polysiloxane 5.0, octyl methoxycinnamate 10.0, Ti oxide 5.0, trimethylsiloxysilicic acid 5.0, NaOH 0.2, and H<sub>2</sub>O 74.3 wt.%.

L20 ANSWER 2 OF 30 HCAPLUS COPYRIGHT 2004 ACS on STN  
1994:512559 Document No. 121:112559 Dehydration sheets for removal of water from **oils**. Myake, Koji; Suminaga, Norisuke; Harada, Nobuyuki; Shimomura, Tadao (Nippon Catalytic Chem Ind, Japan). Jpn. Kokai Tokkyo Koho JP 06134301 A2 **19940517** Heisei, 6 pp. (Japanese). CODEN: JKXXAF. APPLICATION: JP 1992-282604 19921021.

AB The dehydration sheets for water absorption 2-10 times, comprise fibrous substrates (contg. hydrophilic fibers) on which **water-absorbing polymers** prepd. by polymn. of water-sol. ethylenic unsatd. monomers are directly formed and adhered. Moisture-contg. **oils** are contacted with the sheets for dehydration. The sheets **inhibit** pptn. of the **water-absorbing polymers**, and clogging by swelled polymers. Thus, a **lubricating oil** contg. 200 ppm water was filtered by a sheet which comprises a nonwoven fabric contg. polyester and cellulose, and coated with partially neutralized **acrylic** acid-N,N'-methylenebisacrylamide copolymer to decrease the water content to 50

ppm.

L20 ANSWER 3 OF 30 HCAPLUS COPYRIGHT 2004 ACS on STN

1994:485941 Document No. 121:85941 Water-**absorbing polymer** compositions useful for sealants. Suetsugu, Masakatsu; Sezaki, Eiji; Isono, Masatoshi (Tonen Kagaku Kk, Japan). Jpn. Kokai Tokkyo Koho JP 06057060 A2 **19940301** Heisei, 6 pp. (Japanese). CODEN: JKXXAF. APPLICATION: JP 1992-237696 19920813.

AB The title compns., useful for **waterproof** sealants, comprise 100 parts thermoplastic olefin elastomers composed of 15-45% ethylene polymers and 55-85% ethylene-propene-diene copolymers, 5-95 parts water-**absorbing polymers**, 1-25 parts inorg. fillers, 2-50 parts softening agents, and 2-50 parts plasticizers. A compn. contg. 67 parts mixt. of 75% EPDM rubber (28% propene; I no. 15) and 25% ethylene-vinyl acetate copolymer, 33 parts Aqualic CS 6S (water-**absorbing resin**), 20 parts PW 380, 20 parts diisodecyl phthalate, and 5 parts Softon (CaCO<sub>3</sub>) was kneaded at 140.degree. and pressed to give a sheet contg. uniformly dispersed Aqualic CS 6S and showing d. 1.08 g/cm<sup>3</sup>, Shore A hardness 52, and water absorption during 7 days in H<sub>2</sub>O 220%.

L20 ANSWER 4 OF 30 HCAPLUS COPYRIGHT 2004 ACS on STN

1994:485510 Document No. 121:85510 Water-**absorbing polymer** compositions. Suetsugu, Masakatsu; Sezaki, Eiji; Isono, Masatoshi (Tonen Kagaku Kk, Japan). Jpn. Kokai Tokkyo Koho JP 06057059 A2 **19940301** Heisei, 6 pp. (Japanese). CODEN: JKXXAF. APPLICATION: JP 1992-237695 19920813.

AB The compns., useful for **waterproof** sealants, comprise 100 parts thermoplastic olefin elastomers composed of 15-45% ethylene polymers and 55-85% ethylene-propylene-diene polymers, 5-95 parts water-**absorbing polymers**, 2-50 parts softening agents, and 2-50 parts plasticizers. Thus, a compn. contg. 67 parts a mixt. of 75% EPDM rubber (propylene content 28%, iodine value 15) and 25% ethylene-vinyl acetate copolymer, 33 parts Aqualic CS 6S (water-**absorbing resin**), 20 parts PW 380, and 10 parts diisodecyl phthalate was kneaded at 140.degree. and pressed to give a sheet showing d. 1.03 g/cm<sup>3</sup>, Shore-A hardness 56, and water-absorption 1.5 fold in 7-day immersion in H<sub>2</sub>O at room temp.

L20 ANSWER 5 OF 30 HCAPLUS COPYRIGHT 2004 ACS on STN

1994:232139 Document No. 120:232139 Offset printing sheets for illuminated signboards. Uchida, Tetsuo; Maeda, Kyoshige; Matsura, Kazuo (Toray Industries, Japan). Jpn. Kokai Tokkyo Koho JP 05229244 A2 **19930907** Heisei, 8 pp. (Japanese). CODEN: JKXXAF. APPLICATION: JP 1992-69399 19920220.

AB The title sheets are prepd. by forming, on .gtoreq.1 side of a



plastic film, an offset ink-receiving layer contg. a polymer binder, porous particles with **oil** absorption 200-400 mL/100 g, and a white pigment and have an optical d. of 0.20-0.50. The sheets show good thermal **resistance**, **water resistance**, and ink setting and ink drying properties and are useful for illuminated signboards. Thus, a PET film was coated with a compn. contg. 2-hydroxyethyl methacrylate-Bu methacrylate-**acrylamide**-Me methacrylate-**acrylic** acid copolymer, Elecond (cationic **polymer**), Finesil (silica; **oil absorption** 260 mL/100 g), and TiO<sub>2</sub> to give an elec. decoration sheet (optical d. 0.30).

L20 ANSWER 6 OF 30 HCAPLUS COPYRIGHT 2004 ACS on STN  
1993:671972 Document No. 119:271972 Manufacture of swellable **oil** absorbents. Hozumi, Yoshuki; Uno, Tooru (Nippon Catalytic Chem Ind, Japan). Jpn. Kokai Tokkyo Koho JP 05032708 A2 **19930209** Heisei, 8 pp. (Japanese). CODEN: JKXXAF.  
APPLICATION: JP 1991-188831 19910729.

AB The title absorbents with good absorption capacity and retention were prep'd. without coagulation or scale formation by suspension polymn. of 90-99.999% monomer having 1 polymerizable unsatn. and soly parameter .ltoreq.9 and 0.001-10% crosslinking monomer having .gtoreq.2 polymerizable unsatns. in the presence of **oil** -sol. radical polymn. initiator and 0.01-1 part (based on 100 parts monomers) suspension stabilizer comprising mainly poly(vinyl alc.) (degree of sapon. .gtoreq.80 mol%) skeleton with 2-30% hydrophobic unit contg. C>2 hydrocarbaryl group. Polymn. of 99.794 parts nonylphenyl **acrylate** and 0.206 parts 1,6-hexanediol diacrylate in the presence of 0.05 part sapond. vinyl acetate-polyethylene glycol monoallyl ether (19.6%) copolymer (degree of sapon. 99.1 mol%) and Bz2O2 in **water** gave a coagulation-**free** polymer suspension.

L20 ANSWER 7 OF 30 HCAPLUS COPYRIGHT 2004 ACS on STN  
1993:502138 Document No. 119:102138 **Waterproofing** materisl. Suo, Isamu; Tanuma, Mikito; Nagase, Tadashi (Mitsui Toatsu Chemicals, Japan). Jpn. Kokai Tokkyo Koho JP 05097489 A2 **19930420** Heisei, 6 pp. (Japanese). CODEN: JKXXAF.  
APPLICATION: JP 1991-263582 19911011.

AB The title materials contain nonionic pitch emulsions, synthetic resin emulsions, cement, and water-in-**oil** cationic H<sub>2</sub>O-**absorbing polymer** emulsions. They are workable at ambient temp. on, e.g., roof, walls, floor, etc.

L20 ANSWER 8 OF 30 HCAPLUS COPYRIGHT 2004 ACS on STN  
1993:479317 Document No. 119:79317 Treatment of waste antifreezing solutions by solidification. Kato, Kohei; Yoshioka, Tooru (Sanko Yushi Kk, Japan; Yoshioka Tooru). Jpn. Kokai Tokkyo Koho JP

05123504 A2 **19930521** Heisei, 4 pp. (Japanese). CODEN: JKXXAF. APPLICATION: JP 1991-135487 19910510.

AB The treatment involves mixing ion-adsorbing agents with the waste solns. contg. water, and mixing and stirring with water-**absorbing acrylic polymers**. The method is useful for surfactants, brake **oils**, engine **oils**, etc. Thus, ethylene glycol soln. contg. **water** and rust **inhibitors** was successively treated with diatomaceous earth, and AQUA KEEP (**acrylic** polymer) for solidification.

L20 ANSWER 9 OF 30 HCAPLUS COPYRIGHT 2004 ACS on STN  
1992:656908 Document No. 117:256908 Additives in underground excavation by shield process. Uchida, Hiroshi; Arimori, Kenjiro; Akioka, Yukihiro; Tamai, Tatsuro; Hisawa, Yukihiro; Yoshimura, Muneo (Kajima Corp., Japan; Kuraray Chemical Co., Ltd.; Motooka Tsusho K. K.). Jpn. Kokai Tokkyo Koho JP 04185691 A2 **19920702** Heisei, 5 pp. (Japanese). CODEN: JKXXAF. APPLICATION: JP 1990-316609 19901120.

AB The additives for improving the **waterproofness** and flowability of excavated soil in the pressure chamber comprise water-**absorbing resins** of particle size .ltoreq.0.01 mm and .gtoreq.0.05 mm, water, and dispersion stabilizer. Thus, a typical additive comprised polyacrylamide of particle size 0.003-0.005 mm 40, isobutylene-maleic anhydride copolymer of particle size 0.1-0.5 mm 20, water 30, **acrylic** acid-ethylene oxide copolymer 1, and liq. paraffin 50 parts.

L20 ANSWER 10 OF 30 HCAPLUS COPYRIGHT 2004 ACS on STN  
1992:216543 Document No. 116:216543 Soil removal and removers. Uto, Nobuyuki (Kaken Kogyo K. K., Japan). Jpn. Kokai Tokkyo Koho JP 04011981 A2 **19920116** Heisei, 5 pp. (Japanese). CODEN: JKXXAF. APPLICATION: JP 1990-112864 19900427.

AB A surface expected to be soiled is coated with a film-forming resin contg. a water-sol. resin and a swellable material, then, after being soiled, the coated material is immersed in water for removal of the soil. An ABS plate was coated with a compn. from poly(vinylpyrrolidone) 10, water-**absorbent polymer** 2.0, and EtOH-based solvent 88%, exposed to an **oily** soil (as in frying environment), then the soil plate was immersed in an aq. surfactant soln. at 45.degree..

L20 ANSWER 11 OF 30 HCAPLUS COPYRIGHT 2004 ACS on STN  
1992:195950 Document No. 116:195950 **Anticorrosive** packing compositions for railroad truck plug collars. Shibano, Takayuki; Nakai, Masao; Tokuoka, Kenzo; Aono, Tadashi (Nippon Grease Co., Ltd., Japan; West Japan Railway Co.). Jpn. Kokai Tokkyo Koho JP 03290501 A2 **19911220** Heisei, 6 pp. (Japanese). CODEN: JKXXAF. APPLICATION: JP 1990-92398 19900406.

AB The title compns., in the form of gels, can be used with or without water and comprise base **oils** (e.g. mineral **oil**), thickening agents (e.g. water-**absorbent acrylic polymers**, crosslinked polyoxyethylenes), and additives (e.g. corrosion inhibitors).

L20 ANSWER 12 OF 30 HCAPLUS COPYRIGHT 2004 ACS on STN  
1992:130962 Document No. 116:130962 Ethylene-.alpha.-olefin rubber water-**absorbing polymer** composites. Shimada, Noboru; Shimizu, Yoshihiro; Ono, Toshio (Japan Synthetic Rubber Co., Ltd., Japan). Jpn. Kokai Tokkyo Koho JP 03162437 A2 19910712 Heisei, 11 pp. (Japanese). CODEN: JKXXAF. APPLICATION: JP 1989-302008 19891122.

AB The title composites mainly comprise 0.5-99.5% modified elastomers prepd. by adding .gtoreq.1 .alpha.,.beta.-unsatd. carboxylic anhydrides on ethylene-.alpha.-olefin copolymers and/or ethylene-.alpha.-olefin-unconjugated diene copolymers, and 99.5-0.5% water-**absorbing polymers** having CO<sub>2</sub>H-reactive functional groups. Thus, a 2 mm sheet (170.degree., 10 min) from JSR-EP 33 (I) modified with 0.6% maleic anhydride 100, Sumikagel SP 520 (**acrylic acid-vinyl alc. copolymer**) 40, clay 55, carbon black 5, process **oils** 40, ZnO 5, stearic acid 1, sorbitan monostearate 10, polyethylene glycol 3, S 0.5, and **antioxidants** 4.0 parts showed tensile strength 63 kg/cm<sup>2</sup>, elongation 710%, JIS-A hardness 46, water swelling after 30 days in pure water 46%, in seawater 15%, vs., 44 kg/cm<sup>2</sup>, 740%, 43, 25%, 10%, resp., for a similar compn. contg. untreated I.

L20 ANSWER 13 OF 30 HCAPLUS COPYRIGHT 2004 ACS on STN  
1992:61365 Document No. 116:61365 Corrosion-**resistant** and water-swelling compositions. Niwa, Kenji (Asahi Chemical Co., Ltd., Japan). Jpn. Kokai Tokkyo Koho JP 03190946 A2 19910820 Heisei, 5 pp. (Japanese). CODEN: JKXXAF. APPLICATION: JP 1989-330311 19891219.

AB The title compns., useful for gaskets, sealants, and caulking materials, contain (a) rubbers and/or thermoplastic resins 100, (b) highly water-**absorbing resins** 10-200, (c) corrosion inhibitors for metals 0.1-5, and (d) agents [such as Zn oleate (I)] for causing bleeding of the corrosion inhibitors to metal-compn. interface 3-30 parts. Thus, a compn. contg. Esprene E-512F (rubber) 100, Seast SO 120, a paraffin **oil** 80, stearic acid 1, ZnO 5, water-absorbing Sumikagel SP 510 (**acrylic acid-vinyl alc. copolymer**) 60, a corrosion-inhibiting reaction product (II) of salicylic acid with basic zinc carbonate and propylstearyldiamine 2, I 10, S 1.2, Zn dibutyldithiocarbamate 2, dipentamethylenethiuram tetrasulfide 0.5, and 2-mercaptobenzothiazole 1.5 parts, was press vulcanized at 160.degree. for 15 min to prep. a 2-mm sheet. This sheet showed

rust generation 0-1% and no blistering when attached to a linearly notched cationic electrophoretic painted plate followed by a 500-h salt water spraying and water swelling 150% (longitudinal) after immersed in distd. H<sub>2</sub>O at 25.degree. for 50 h, compared with 25-50%, blistering, and 146%, resp. for controls when I and II were not used.

L20 ANSWER 14 OF 30 HCAPLUS COPYRIGHT 2004 ACS on STN

1991:494092 Document No. 115:94092 Corrosion-**resistant**, **water**-expandable sealing composition. Yamamoto, Yuji; Shigematsu, Hideyuki; Tanaka, Hiroshi; Ashikawa, Ryo; Ishida, Tatsuo (Hiroshima Kasei, Ltd., Japan; Mitsubishi Motors Corp.). U.S. US 5011875 A **19910430**, 5 pp. Cont. of U.S. Ser. No. 176,192, abandoned. (English). CODEN: USXXAM. APPLICATION: US 1990-501389 19900326. PRIORITY: US 1988-176192 19880401.

AB The title compns. useful in automobile weather strips, gaskets, etc. comprise 100 parts .gtoreq.1 C<sub>2</sub>H<sub>4</sub>-C<sub>3</sub>H<sub>6</sub> terpolymers, or their mixt., 10-200 parts water absorbents, and 5-30 parts corrosion inhibitors. A typical compn. contained Esprene 501A (olefin-based rubber) 30, JSR-1778N (**oil**-extended SBR) 100, SRF carbon black 20, FEF carbon black 10, naphthene-type process **oil** 50, clay 80, stearic acid 1, wax 1, 2,5-di-tert-butylhydroquinone 1, ZnO 5, S 1.5, dipentamethylene thiuram hexasulfide 1.5, N-cyclohexyl-2-benzothiazylsulfone amide 1, Zn dimethyldithiocarbamate 1.5, and org. amine 1.5, triethanolamine 15, Na benzoate 10, and **acrylic acid-vinyl alc. copolymer absorbent** 60 parts showing excellent corrosion inhibition.

L20 ANSWER 15 OF 30 HCAPLUS COPYRIGHT 2004 ACS on STN

1990:159717 Document No. 112:159717 **Absorbent polymers** containing corrosion inhibitors. Bethune, John Kenneth (Australia). PCT Int. Appl. WO 8907633 A1 **19890824**, 14 pp. DESIGNATED STATES: W: AU, JP, KP, KR, US; RW: AT, BE, CH, DE, FR, GB, IT, LU, NL, SE. (English). CODEN: PIXXD2. APPLICATION: WO 1989-AU67 19890220. PRIORITY: AU 1988-6828 19880218.

AB Water-swellable and water-insol. **polymer absorbents** for liqs. at low temp. contain .gtoreq.1 corrosion inhibitors selected from glucose derivs., silicates, tannic acid, gelatin, and polyphosphates. Thus, a sample of 0.2 g Sanwet 1000 absorbent hydrated with 40 g H<sub>2</sub>O and mixed with 0.04 g Na gluconate (I) did not corrode an Al plate after 48 h at 25-28.degree., compared with heavy corrosion without I.

L20 ANSWER 16 OF 30 HCAPLUS COPYRIGHT 2004 ACS on STN

1989:635674 Document No. 111:235674 **Water-free** skin cleaners containing polymers as soil antiredeposition agents. Bouillon, Guenter (Chemische Fabrik Stockhausen G.m.b.H., Fed. Rep.

Ger.). Ger. Offen. DE 3736970 A1 **19890511**, 7 pp.

(German). CODEN: GWXXBX. APPLICATION: DE 1987-3736970 19871030.

- AB The title cleaners contain surfactants, org. solvents, and water-swellable **polymer** particles which **absorb** soil and prevent its redeposition on skin during rinsing with water. A cleaner contained oleic acid triethanolamine salt 15, AcOBu 58, soybean **oil** 5, silica 5.1, perfume 0.4, Fabor SAB 422 (partially neutralized crosslinked **acrylic** acid polymer) 9, and powd. polyethylene (<300 .mu.m) 7.5%.

L20 ANSWER 17 OF 30 HCAPLUS COPYRIGHT 2004 ACS on STN

1988:206436 Document No. 108:206436 Water-swellable sealing tapes. Utsumiya, Shingo (Futaba Rubber Industry Co., Ltd., Japan). Jpn. Kokai Tokkyo Koho JP 63003080 A2 **19880108** Showa, 3 pp. (Japanese). CODEN: JKXXAF. APPLICATION: JP 1986-145551 19860620.

- AB A water-swellable mixt. of rubber and a water-**absorbing resin** is bonded to a nonswellable, vulcanized rubber bearing fine, parallel projections to give the title tapes. A swellable layer comprised compounded natural rubber and soft clay 30, fillers 21, process **oil** 30, and sapond. Me **acrylate** -vinyl acetate copolymer 180 phr; and a nonswelling layer contained compounded natural rubber and fillers 60 and process **oil** 30 phr.

L20 ANSWER 18 OF 30 HCAPLUS COPYRIGHT 2004 ACS on STN

1987:618639 Document No. 107:218639 Water-swelling vinyl chloride resin compositions. Watanabe, Masashi; Hamahira, Eizo (Sumitomo Chemical Co., Ltd., Japan; Sumika Color Co., Ltd.). Jpn. Kokai Tokkyo Koho JP 62064851 A2 **19870323** Showa, 4 pp. (Japanese). CODEN: JKXXAF. APPLICATION: JP 1985-206105 19850917.

- AB Title compns. with good water absorbency and wettability and useful in prepg. **water** leak **prevention** materials are prepd. by blending vinyl chloride polymers and master batch compns. comprising 1 part 1-9:1-9 vinyl chloride polymer-plasticizer mixts. and 1-4 parts water-**absorbent resins**. Thus, suspension-polymd. PVC (av. d.p. 1100) 42, DOP 53, epoxidized soybean **oil** 2.5, Ba-Zn stabilizer 2.5, and sapond. **acrylate** ester-vinyl acetate copolymer (Sumikagel SP-510) 250 parts were mixed at 110-120.degree., cooled to 60.degree., kneaded, and pelletized to give a master batch, of which 46.5 parts was mixed with 53.5 parts pellets composed of PVC 27.4, DOP 25, and Ba-Zn stabilizer 1.1 part and extruded to give a 2-mm sheet with tensile strength 56.0 kg/cm<sup>2</sup>, elongation 233, and water absorbency 327%.

L20 ANSWER 19 OF 30 HCAPLUS COPYRIGHT 2004 ACS on STN

1987:578207 Document No. 107:178207 Non-film-forming polymer emulsions for other than cosmetic uses and their preparation and conversion to

powders. Takarabe, Kunihide; Kuwamura, Shinichi; Ozawa, Hiroshi (Dainippon Ink and Chemicals, Inc., Japan). Jpn. Kokai Tokkyo Koho JP 62095301 A2 **19870501** Showa, 28 pp. (Japanese). CODEN: JKXXAF. APPLICATION: JP 1985-233550 19851021.

AB Polymer emulsions useful for imparting hiding power and weather resistance to coatings, etc., are prepd. by the polymn., in a seed polymer emulsion contg. **antioxidants** and/or UV **absorbers**, of radically **polymerizable** monomers whose polymers have water contact angle 1-110.degree. higher than that of the seed polymer. Adding hydroxyphenylbenzotriazole 2, styrene 10, Me methacrylate 9.5, N-methylolacrylamide 0.25, **acrylic** acid 0.25, (NH<sub>4</sub>)<sub>2</sub>S<sub>2</sub>O<sub>8</sub> 0.05, and H<sub>2</sub>O 4 parts to 100 parts emulsifier-contg. H<sub>2</sub>O, heating 2 h at 70.degree., adding Sanol 770 10, styrene 75, Me methacrylate 3, divinylbenzene 2, (NH<sub>4</sub>)<sub>2</sub>S<sub>2</sub>O<sub>8</sub> 0.25, and H<sub>2</sub>O 5 parts at 70.degree., mixing 2 h, aging 45 min, cooling, adjusting to pH 8.6 with NH<sub>4</sub>OH to give a non-film-forming polymer emulsion (40% solids), mixing the emulsion 16.1, a film-forming **acrylic**-styrene copolymer (Voncoat EC-880) emulsion 60.1, and 71% aq. TiO<sub>2</sub> dispersion 16.6 parts with Bu<sub>3</sub>PO<sub>4</sub>, H<sub>2</sub>O, and hydroxyethyl cellulose, coating the mixt. on a surface, and drying 3 days gave a coating with gloss 86%, hiding power 0.98, and good **water**, alkali, and weather **resistance**.

L20 ANSWER 20 OF 30 HCAPLUS COPYRIGHT 2004 ACS on STN

1987:556588 Document No. 107:156588 **Anticorrosive** water-swellable compositions. Shigematsu, Hideyuki; Yamamoto, Juji; Tanaka, Hiroshi; Ashikawa, Akira; Ishida, Tatsuo (Hiroshima Kasei, Ltd., Japan; Mitsubishi Motors Corp.). Jpn. Kokai Tokkyo Koho JP 62074984 A2 **19870406** Showa, 6 pp. (Japanese). CODEN: JKXXAF. APPLICATION: JP 1985-215674 19850928.

AB Title compns. useful for gaskets and sealants comprise 100 parts rubber and/or thermoplastic resins, 10-200 parts highly water-**absorbing resins**, and 5-30 parts corrosion inhibitors. Esprene 501A 30, JSR 1778N 100, carbon black 30, clay 80, process **oil** 50, stearic acid 1, triethanolamine 15, BzONa 10, Sumikagel SP 510 (**acrylic** acid-vinyl alc. copolymer) 60, and additives 14 parts were rolled, sheeted, and press vulcanized at 150.degree. for 10 min to give a sealant which showed vol. expansion (in H<sub>2</sub>O, 96 h) 376% and prevented corrosion of Fe plates in H<sub>2</sub>O (compared to uncoated plates) by 98.8%.

L20 ANSWER 21 OF 30 HCAPLUS COPYRIGHT 2004 ACS on STN

1987:424538 Document No. 107:24538 Liquid absorbing devices. (Minnesota Mining and Mfg. Co., USA). Jpn. Kokai Tokkyo Koho JP 62068459 A2 **19870328** Showa, 9 pp. (Japanese). CODEN: JKXXAF. APPLICATION: JP 1986-220823 19860918. PRIORITY: US 1985-777742 19850919.

AB Disposable diapers, sanitary napkins, etc. which are more

comfortable because with vapor can escape from them have **waterproof** backing sheets with good adhesive bondability which have a network structure of continuous microscopic pores formed by phase sepn. on cooling of polyethylene (I) contg. hydrocarbons. A compn. of 55.8% mineral **oil** and 44.2% GM9255 (HDPE) was formed into a sheet, then extd. with CH<sub>3</sub>CCl<sub>3</sub> and drawn 275% in each direction. The resulting sheet had residual **oil** content 8.3%, water vapor permeability 3306 g/m<sup>2</sup>-day, and adhesion (to styrene-isoprene triblock copolymer rubber-coated tape) 863 g/2.5 cm.

L20 ANSWER 22 OF 30 HCAPLUS COPYRIGHT 2004 ACS on STN

1986:136114 Document No. 104:136114 Dispersed absorbent products and method of use. Korpman, Ralf; Gandy, Charles (Personal Products Co., USA). Eur. Pat. Appl. EP 157960 A1 **19851016**, 27 pp.

DESIGNATED STATES: R: AT, BE, CH, DE, FR, GB, IT, LI, LU, NL, SE. (English). CODEN: EPXXDW. APPLICATION: EP 1984-302059 19840327.

AB Particulate, water-insol., water-swellaable absorbents dispersed in an org. liq. may be employed alone or on a substrate to provide articles such as pads and diapers. **Absorbents** include **acrylate polymers**, **acrylate** polymer modified polysaccharides, crosslinked CM-cellulose, crosslinked poly(alkylene oxides) and gum blends. The vehicles include **oils**, liq. resins, liq. rubbers, liq. polyalkylenes, glycol ethers, and higher alcs. Thus, starch polyacrylate dispersed in mineral **oil** was applied to a nonwoven rayon sheet. The materials were employed in the absorbent portion of diapers and backed with a **moisture impermeable** film to produce disposable diapers having superior absorptive properties and in which the particulate absorbents were retained in place.

L20 ANSWER 23 OF 30 HCAPLUS COPYRIGHT 2004 ACS on STN

1985:616875 Document No. 103:216875 Soil-resistant synthetic polyester fibers. (Kuraray Co., Ltd., Japan). Jpn. Kokai Tokkyo Koho JP

60119272 A2 **19850626** Showa, 5 pp. (Japanese). CODEN:

JKXXAF. APPLICATION: JP 1983-222567 19831125.

AB Polyester fibers, surface-coated with fluoropolymers (mol. wt. 10,000-40,000), are treated with aq. dispersions of polyester polyether block copolymer (mol. wt. 3000-6000) prepd. from terephthalic acid, alkylene glycol, and polyalkylene glycol and then heated to cause **absorption** of the **copolymer** and give fibers with lasting soil **resistance** and **water** and **oil** repellency. Thus, poly(ethylene terephthalate) fiber (crimped tow) was soaked in an aq. dispersion of poly(fluoroalkyl **acrylate**), squeezed, dried, and cut to give staple fibers which were dyed with a mixt. of Miketon Polyester Red 7BE, AcOH, and an aq. dispersion of the above-described copolymer and made into pile yarns. Tufted carpet prepd. from the

yarns and rubber latexes showed improved soil resistance, compared with carpets treated with fluoropolymers or hydrophilic polymers.

L20 ANSWER 24 OF 30 HCAPLUS COPYRIGHT 2004 ACS on STN

1985:454990 Document No. 103:54990 **Polymeric** powdered water **absorbents**. (Sumitomo Chemical Co., Ltd., Japan). Jpn. Kokai Tokkyo Koho JP 60084360 A2 **19850513** Showa, 6 pp. (Japanese). CODEN: JKXXAF. APPLICATION: JP 1983-160856 19830831.

AB A finely powd. **polymeric** water **absorbent** is mixed with a mineral **oil**, a plasticizer, a dispersant, an inorg. filler, and/or org. filler to **prevent** spattering or **moisture** absorption during storage. The product is useful as a water-sealing compn. Thus, powd. sapond. copolymer from 6:4 vinyl acetate-Me **acrylate** mixt. (particle diam.  $\leq 0.60 \mu$ , water absorption capacity 700 g/g-polymer) was mixed with 30 phr paraffin **oil** exhibiting water absorption 13% after 12 h under 60% relative humidity. A compn. comprising Esprene 400 100, clay 200, paraffin **oil** 88, and the **polymeric absorbent** was kneaded for 1.7 h (giving 0.2 parts spattered powders during kneading) and extruded to give a uniformly dispersed sealant sheet exhibiting smooth surface after being swelled with water. A compn. contg. an untreated **polymeric absorbent** produced 2.7 parts spattered powder during kneading and gave a sealant sheet contg. unevenly dispersed absorbents.

L20 ANSWER 25 OF 30 HCAPLUS COPYRIGHT 2004 ACS on STN

1982:124158 Document No. 96:124158 Urethane polymer gaskets. (Nihon Hatsujo K. K., Japan). Jpn. Kokai Tokkyo Koho JP 56155275 A2 **19811201** Showa, 5 pp. (Japanese). CODEN: JKXXAF. APPLICATION: JP 1980-57887 19800502.

AB Open-cell polyurethane foam compns. contg. 4-120 wt.% (based on polyurethane) water-insol. **absorbent polymer** with tensile strength  $\geq 0.5$  kg/cm<sup>2</sup> and 50% compression force 10-1000 g/cm<sup>2</sup> are useful as **waterproofing** gaskets. Thus, a polyurethane [39279-01-1] foam from polypropylene glycol glycerol ether (mol. wt. 3000) 100, H<sub>2</sub>O 3, silicone **oil** 1, triethylenediamine 0.3, Sn octanoate 0.35, powd. copolymer (I) [70279-73-1] from **acrylic** acid 100, 2-hydroxyethyl methacrylate 33.3 g, and NaOH 44.7 g 14, and TDI 38.45 parts (bulk d. 0.0295-0.0349) was sliced to 10-mm thickness and used as a gasket which could hold water at  $\leq 7.0$  kg/cm<sup>2</sup>, compared with  $<10$  g/cm<sup>2</sup> without I.

L20 ANSWER 26 OF 30 HCAPLUS COPYRIGHT 2004 ACS on STN

1981:158030 Document No. 94:158030 **Water-impermeable** polymeric film. Hiraoka, Yoshiji; Obayashi, Tsutomu (Hiraoka and Co., Ltd., Japan). Ger. Offen. DE 3010061 **19810122**, 31



pp. (German). CODEN: GWXXBX. APPLICATION: DE 1980-3010061  
19800315.

AB H2O-impermeable films contain fibrous substrates with surface layers of hydrophobic plastic embedded with particles of hydrophilic, H2O-insol. drop formation preventers. Thus, a 360 g/m<sup>2</sup> woven vinal fiber substrate is dipped in a mixt. of PVC [9002-86-2] 80, Bu benzyl phthalate 68, epoxidized soybean oil 7, CaCO<sub>3</sub> 20, Ba-Cd stabilizer 3, pigment 8, and PhMe 130 parts. The impregnated fabric is pressed to PVC pickup 120%, dried 1 min at 90.degree., and heated 1 min at 160.degree.. Particles (100 mesh) of Sunwet 1M 300 (**acrylonitrile**-starch graft copolymer) [37291-07-9] are sprayed uniformly on the PVC surface to 0.2 g/m<sup>2</sup> immediately after heating and the film is calendered and cooled. The film has resistance to H2O penetration .gtoreq.1500 mm, based on hydrostatic pressure. A tent prepd. from the film, after standing overnight at inside temp. 40.degree. and relative humidity 80% and outside temp. 5.degree. had no H2O drop formation on the inside, while with no Sunwet 1M 300 on the surface, H2O drops formed and fell to the floor.

L20 ANSWER 27 OF 30 HCAPLUS COPYRIGHT 2004 ACS on STN  
1973:467783 Document No. 79:67783 **Acrylic** acid ester and methacrylic acid ester copolymers. Greenwood, Edward J. (du Pont de Nemours, E. I., and Co.). Ger. Offen. DE 2065210 **19730620**, 19 pp. Division of Ger. Offen. 2,009,355 (CA 73:121504h). (German). CODEN: GWXXBX. APPLICATION: DE 1970-2065210 19700227.

AB Fluoroalkyl **acrylates**, alkyl methacrylates, and optionally, glycidyl methacrylate were copolymd. in chlorfluoroalkanes to give copolymers useful as oil and water repellents for textiles. Thus, F(CF<sub>2</sub>)<sub>n</sub>CH<sub>2</sub>CH<sub>2</sub>O<sub>2</sub>CCH:CH<sub>2</sub> (I), i.e. a mixt. contg. I with n = 6, 8, 10, 12, and 14 in a 35:30:18:8:3 wt. ratio and Me methacrylate (II) [80-62-6] were heated 1 hr at 75.deg. in a 2:1 CFCl<sub>2</sub>CFCl<sub>2</sub>-CFCl<sub>2</sub>CF<sub>2</sub>Cl mixt. contg. Cl<sub>8</sub>H<sub>37</sub>SH, then 3 hr at 70.deg. after azobisisobutyronitrile (III) addn. and 12 hr at 70.deg. after addnl. III was added to give a copolymer contg. 85% I and 15% II of inherent viscosity 0.23 (trichlorotrifluoroethane, 30.deg.). A polyester fabric was padded with trichloroethylene contg. 7.5% above prepd. **copolymer** until the fabric **absorbed** 0.225% (based on fabric wt.) copolymer to give a sample that exhibited oil (AATCC Test No. 118-1966 T) and water (AATCC Test No. 22-1964) repellency ratings 6 and 50, resp.

L20 ANSWER 28 OF 30 HCAPLUS COPYRIGHT 2004 ACS on STN  
1963:82625 Document No. 58:82625 Original Reference No. 58:14235b-h Deposition of polymers within or on another polymer. Bridgeford, Douglas J. (Tee-Pak, Inc.). US 3083118 **19630326**, 44 pp. (Unavailable). APPLICATION: US 19580304.

AB The process uses a natural or synthetic host polymer (I) which has or is given ion-exchange properties, and a guest polymer (II) of an olefinically unsatd. monomer which is deposited or formed on or within I or parts thereof. The ion-exchange groups fix on I at least part of the polymerization catalyst for the formation of II. I should be of at least gelatinous solidity and can be fibrous, sheet, or a solid shape. Decorative effects, improved flame-, rot-, corrosion-, or **moisture-resistance**, or better rigidity or dyeability are thus imparted. A component of the catalyst is introduced into I by ion exchange, I is treated with the monomer, and then the remaining component of the catalyst is added. The order of these steps can be varied. Monomers include methacrylates, vinyl and vinylidene esters, pyridines, **acrylamides**, styrenes, dienes, etc. I materials include the com. forms of cellulose, lignins, cellulose esters, asbestos, gelatin, carbon black, regenerated cellulose, algin, pectin, protein-base films and fibers, casein, starch, and all synthetic polymers contg. ion-exchange groups. Thus, a 1-g. piece of viscose process regenerated cellulose film, 5 mils thick and contg. 0.025 milliequiv. of cation-exchange capacity/g., was immersed for 1 min. in a 0.7% soln. of  $\text{Fe}(\text{NH}_4)_2(\text{SO}_4)_2$  at pH 5.5. It was washed free of Fe and refluxed for 25 min. with 400 ml.  $\text{H}_2\text{O}$  contg. 0.003%  $\text{H}_2\text{O}_2$  and 10 ml. Me methacrylate. Polymerization was stopped by pouring into cold  $\text{H}_2\text{O}$ . The film was extd. with  $\text{Me}_2\text{CO}$  overnight and dried at 105.degree.. Its wt. had increased by 130% and the Mullen burst strength by 60%. Its moisture vapor permeability was 1/35th that of an untreated control. A similar treatment of a film with styrene increased its wt. by 36% and made it more hydrophobic. Manila paper similarly treated for 5 min. increased in wt. by 90% and became stiffer. Its dry Mullen strength was 1/2 that of the control, and its wet strength 1.5 times the dry strength. The following examples all included deposition of the Fe salt and its oxidn. with deposition of the II polymer. A cellulose film treated with 5% **acrylonitrile** soln. for 1 hr. increased in wt. by 30% and had greatly improved rot resistance when immersed in an aq. soil dispersion. A cellulose film contg. 0.03 milliequiv. of carboxy/g. cellulose was treated with N,N'-dimethylaminoethyl **acrylate** acetate ester salt, **absorbed** 6.3% of **polymer**, and became dyeable with acid dyes while remaining flexible. Heat-sealing properties were conferred on cellulose films by treatment with poly(butyl **acrylate**). Rayon tire cord treated with allyl **acrylate** became adherent to a rubber compd. Nylon cords can be similarly treated for polymer deposition. Polyethylene film was surface-oxidized by a 10-sec. dip in a  $\text{K}_2\text{Cr}_2\text{O}_7$  soln. in concd.  $\text{H}_2\text{SO}_4$  and then immersed in Me methacrylate monomer overnight. It **absorbed** 3.4% of **polymer** and became more hydrophylic and resistant to warm mineral oil. Cotton Osnaberg filter cloth was washed with deionized  $\text{H}_2\text{O}$  contg.

0.05% Duponal WA wetting agent and, after drying, was treated with 5% **acrylonitrile** soln. for 20 min. It **absorbed** 5.41% of **polymer**. It did not rot during a 30-day exposure to a soil slurry which ruined an untreated control. Cellulose films are thus rendered resistant to cellulose solvents. Flame retardancy is imparted by treatment with Cl- or P-contg. monomers. Wood flour, pulp, or thin wood sheets can be impregnated with polymer and then molded into strong, translucent sheets. A low S content in cellulose to be thus treated is desirable. The depth of penetration of II into I is controlled by the time of immersion in the monomer liquid or soln. When a surface coating only is desired, times of only a few sec. are used. Considerable economy in the use of monomer is obtained by this process.

L20 ANSWER 29 OF 30 HCAPLUS COPYRIGHT 2004 ACS on STN

1949:40339 Document No. 43:40339 Original Reference No. 43:7247b-e Treatment of leather with synthetic resins. Oehler, Rene; Kilduff, Timothy J. J. Research Natl. Bur. Standards, 42, 63-73; Research Paper 1951 (Unavailable) 1949.

AB Leathers were impregnated with **acrylate** and methacrylate resins by the following 3 methods: immersion of leather in monomer and subsequent polymerization in situ at 70.degree. for 16 hrs. (I), immersion in polymer solns. followed by evapn. of solvent (II), immersion in partially polymerized resin followed by varying degrees of cure (III). By I, up to 50% resin was obtained in vegetable-tanned crust leather. If the leather did not fill the polymerization bomb, resin formed outside the leather and results were erratic. Neatsfoot and castor **oils** acted as diluents and plasticizers without affecting polymerization. Me Et ketone was a good diluent but other substances tried prevented polymerization. Polyethyl **acrylate** alone caused leather to shrink but copolymerization with butyl methacrylate or 10% **oil** gave good results. By II, resins having a mol. wt. of 16,000 were absorbed readily but there was little **absorption** of **resins** having a mol. wt. of 43,000; up to 25% resin was obtained in vegetable-tanned crust and 50% in chrome-retanned upper leather. Treatment by III with Thiokol LP2 could be controlled to give either stiff or soft leather. Abrasive resistance was increased by I but was not improved by II. Water absorption in 0.5 hr. could be decreased by one half or more by resin treatment. Water vapor permeability was also decreased but not below a value considered ample for comfort for shoe upper leather.

L20 ANSWER 30 OF 30 HCAPLUS COPYRIGHT 2004 ACS on STN

1949:40338 Document No. 43:40338 Original Reference No. 43:7247b-e Treatment of leather with synthetic resins. Oehler, Rene; Kilduff, Timothy J. Journal of the American Leather Chemists Association, 44, 151-70 (Unavailable) 1949. CODEN: JALCAQ. ISSN:

0002-9726.

AB Leathers were impregnated with **acrylate** and methacrylate resins by the following 3 methods: immersion of leather in monomer and subsequent polymerization in situ at 70.degree. for 16 hrs. (I), immersion in polymer solns. followed by evapn. of solvent (II), immersion in partially polymerized resin followed by varying degrees of cure (III). By I, up to 50% resin was obtained in vegetable-tanned crust leather. If the leather did not fill the polymerization bomb, resin formed outside the leather and results were erratic. Neatsfoot and castor **oils** acted as diluents and plasticizers without affecting polymerization. Me Et ketone was a good diluent but other substances tried prevented polymerization. Polyethyl **acrylate** alone caused leather to shrink but copolymerization with butyl methacrylate or 10% **oil** gave good results. By II, resins having a mol. wt. of 16,000 were absorbed readily but there was little **absorption** of **resins** having a mol. wt. of 43,000; up to 25% resin was obtained in vegetable-tanned crust and 50% in chrome-retanned upper leather. Treatment by III with Thiokol LP2 could be controlled to give either stiff or soft leather. Abrasive resistance was increased by I but was not improved by II. Water absorption in 0.5 hr. could be decreased by one half or more by resin treatment. Water vapor permeability was also decreased but not below a value considered ample for comfort for shoe upper leather.

=&gt; logoff hold

COST IN U.S. DOLLARS	SINCE FILE	TOTAL
	ENTRY	SESSION
FULL ESTIMATED COST	179.14	179.35
DISCOUNT AMOUNTS (FOR QUALIFYING ACCOUNTS)	SINCE FILE	TOTAL
	ENTRY	SESSION
CA SUBSCRIBER PRICE	-26.33	-26.33

SESSION WILL BE HELD FOR 60 MINUTES  
STN INTERNATIONAL SESSION SUSPENDED AT 15:02:48 ON 16 JAN 2004